

11- Find the average of first 40 natural numbers?

- **A.**800
- **B.**810
- **C.**820
- **D.**830
- **E.**None of these

#### Answer & Explanation

**Answer** - **C** (820)

**Explanation** -

$$\text{Average} = \frac{n(n+1)}{2} = \frac{40 \times 41}{2} = 820$$

12- Find the average of first 20 multiple of 7?

- **A.**71.5
- **B.**73.5
- **C.**75.5
- **D.**77.5
- **E.**None of these

#### Answer & Explanation

**Answer** - **B** (73.5)

**Explanation** -

$$\text{Average} = \frac{7(1+2+3+\dots+20)}{20} = \frac{7 \times 20 \times 21}{20 \times 2} = 73.5$$

13- The average of four consecutive even number is 27. Find the largest of these numbers?

- **A.**24
- **B.**28
- **C.**30
- **D.**32
- **E.**None of these

#### Answer & Explanation

**Answer - C (30)**

**Explanation -** Let the numbers be  $x$ ,  $x+2$ ,  $x+4$ ,  $x+6$

$$\begin{aligned}\text{Average} &= \frac{x+(x+2)+(x+4)+(x+6)}{4} = 27 \\ &= \frac{4x+12}{4} = 27 \\ &\quad x = 24\end{aligned}$$

Largest number =  $(x+6) = 24+6 = 30$

**14-** If the average marks of three batches of 55, 60 and 45 students respectively is 50, 55, 60, then the average marks of all the students is:

- **A.54**
- **B.54.68**
- **C.54.86**
- **D.56.68**
- **E.None of these**

#### Answer & Explanation

**Answer - B (54.68)**

**Explanation -**

$$\begin{aligned}\text{Average} &= \frac{55 \times 50 + 60 \times 55 + 45 \times 60}{55 + 60 + 45} \\ &= \frac{2750 + 3300 + 2700}{160} \\ &= \frac{8750}{160} \\ &= 54.68\end{aligned}$$

**15-** The average weight of A, B, C is 45 kg. If the average weight of A and B be 40 kg and that of B and C be 43 kg, find the weight of B?

- **A.21**
- **B.31**
- **C.41**

- **D.51**
- **E.None of these**

**Answer & Explanation**

**Answer** - **B** (31)

**Explanation** -

Let A, B, C represent their respective weights. Then, we have:

$$A + B + C = (45 \times 3) = 135 \dots (i)$$

$$A + B = (40 \times 2) = 80 \dots (ii)$$

$$B + C = (43 \times 2) = 86 \dots (iii)$$

$$\text{Adding (ii) and (iii), we get: } A + 2B + C = 166 \dots (iv)$$

$$\text{Subtracting (i) from (iv), we get: } B = 31.$$

$$B's \text{ weight} = 31 \text{ kg}$$

**16-** In Arun's opinion, his weight is greater than 65 kg but less than 72 kg. His brother does not agree with Arun and he thinks that Arun's weight is greater than 60 kg but less than 70 kg. His mother's view is that his weight cannot be greater than 68 kg. If all are correct in their estimation, what is the average of different probable weights of Arun?

- **A.65 kgs**
- **B.67 kgs**
- **C.69 lgs**
- **D.70 kgs**
- **E.None of these**

**Answer & Explanation**

**Answer** - **B** (67 kgs)

**Explanation** - Let Arun's weight by X kg.

According to Arun,  $65 < X < 72$

According to Arun's brother,  $60 < X < 70$ .

According to Arun's mother,  $X \leq 68$

The values satisfying all the above conditions are 66, 67 and 68.

$$\text{Required average} = \frac{66 + 67 + 68}{3} = \frac{201}{3} = 67 \text{ kg.}$$

**17-** The average salary of all the workers in a workshop is Rs. 8000. The average salary of 7 technicians is Rs. 12000 and the average salary of the rest is Rs. 6000. The total number of workers in the workshop is:

- **A.21**
- **B.22**
- **C.23**
- **D.24**
- **E.None of these**

#### Answer & Explanation

**Answer** - **A** (21)

**Explanation** - Let the total number of workers be  $x$ . then,

$$8000x = (12000 \times 7) + 6000(x - 7)$$

$$2000x = 4200$$

$$x = 21$$

**18-** In an examination, a pupil's average marks were 63 per paper. If he had obtained 20 more marks for his Geography paper and 2 more marks for his History paper, his average per paper would have been 65, How many papers were there in the examination?

- **A.10**
- **B.11**
- **C.12**
- **D.13**
- **E.None of these**

#### Answer & Explanation

**Answer** - **B** (11)

**Explanation** - Let the number of papers be  $x$ .

$$\text{Then, } 63x + 20 + 2 = 65x \text{ or } 2x = 22 \text{ or } x = 11$$

**19-** 16 children are to be divided into two groups A and B of 10 and 6 children. The average percent marks obtained by the children of group A is 75 and the average percent marks of all the 16 children is 76. What is the average percent marks of children of group B?

- **A.** 77  $\frac{1}{3}$
- **B.** 77  $\frac{2}{3}$
- **C.** 75  $\frac{1}{3}$
- **D.** 75  $\frac{2}{3}$
- **E.** None of these

#### Answer & Explanation

**Answer** - **B** (77  $\frac{2}{3}$ )

**Explanation** -

$$\begin{aligned}
 \text{Average} &= \frac{(76 \times 16) - (75 \times 10)}{6} \\
 &= \frac{1216 - 750}{6} \\
 &= \frac{466}{6} \\
 &= \frac{233}{3} \\
 &= 77 \frac{2}{3}
 \end{aligned}$$

**20-** The mean of 50 observations was 36. It was found later that an observation 48 was wrongly taken as 23. The corrected new mean is:

- **A.** 30.5
- **B.** 36.5

- C.37
- D.39.5
- E.None of these

**Answer & Explanation**

**Answer** - B (36.5)

**Explanation** - Correct sum =  $(36 \times 50 + 48 - 23) = 1825$

$$\text{Correct mean} = \frac{1825}{50} = 36.5$$